

Notice of Allowability

Application No.

10/080,135

Examiner

Clemence Han

Applicant(s)

EBERLE ET AL.

Art Unit

2616

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 08/07/2007.
2. ☒ The allowed claim(s) is/are 1-9, 11, 12, 14-17, 19, 20, 22-31, 34-36, 39, 40, 42, 43 and 45-51 now renumbered as 1, 2, 9, 8, 10, 11, 16, 14, 15, 17, 18, 20, 3-7, 19, 21-25, 30, 26-28, 31, 29, 32-35, 38, 12, 13, 36, 37 and 39-41.

3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) ☐ All b) ☐ Some* c) ☐ None of the:

1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input checked="" type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date <u>20071015</u> . |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____ |

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Robert Lord on October 16, 2007.

The application has been amended as follows:

Claim 1: replace the whole claim with following;

“A method for sharing multiple resources among users using an arbiter comprising:

receiving by the arbiter an indication from a first user as to whether the first user wishes to be speculatively allocated a first resource,

allocating the first resource speculatively to the first user for use during an access interval, absent a request for the first resource from the first user, when the first user wishes to be speculatively allocated the first resource according to the indication,

wherein speculatively allocating the first resource comprises allocating the first resource according to one of a fixed priority scheme and a scheme allocating the resource to a user with the fewest request.”

Claim 22: replace the whole claim with following;

“An apparatus comprising:

a plurality of users; and

an arbiter coupled to receive request for use of resources by respective users and to receive an indication from a first user of the plurality of users as to whether the first user wishes to be speculatively allocated a resource,

wherein the arbiter is responsive to speculatively allocate the resource to the first user for use during an access interval, absent a request from the first user for the resource, when the first user wishes to be speculatively allocated the resource according to the indication.”

Allowable Subject Matter

2. Claim 1-9, 11, 12, 14-17, 19, 20, 22-31, 34-36, 39, 40, 42, 43 and 45-51 are allowed.

3. The present invention is directed to a method for speculatively allocating resources. The prior arts in the record fail to teach or make obvious to a method comprising speculatively allocating the first resource according to one of a fixed priority scheme and a scheme allocating the resource to the user with the fewest requests within a structure of the claim. These features are claimed in the independent claim 1 and render it allowable. The prior arts in the record fail to teach or make obvious to a method comprising speculatively allocates the first resources to the first user according to the first user having requested the first resource during a previous arbitration cycle within a

structure of the claim. These features are claimed in the independent claim 4 and render it allowable. The prior arts in the record fail to teach or make obvious to a method comprising speculatively allocating the first resource according to which of the users had the most requests for all resources combined, for a predetermined number of previous arbitration cycles within a structure of the claim. These features are claimed in the independent claim 8 and render it allowable. The prior arts in the record fail to teach or make obvious to a method comprising speculatively allocating the first resource according to which of the users had the most grants for a predetermined number of previous arbitration cycles within a structure of the claim. These features are claimed in the independent claim 9 and render it allowable. The prior arts in the record fail to teach or make obvious to a method comprising speculatively allocating the first resource according to a fill level of at least one of a send queue and a receive queue associated respectively with a user and resource for an arbitrated data transfer within a structure of the claim. These features are claimed in the independent claim 11 and render it allowable. The prior arts in the record fail to teach or make obvious to a method comprising a maximum number of resources unallocated by the arbiter for a particular access cycle are speculatively allocated for use during the particular access cycle within a structure of the claim. These features are claimed in the independent claim 12 and render it allowable. The prior arts in the record fail to teach or make obvious to an apparatus comprising the arbitration logic receives an indication from a first user of the plurality of users as to whether the first user wishes to be speculatively allocated a resource within a

structure of the claim. These features are claimed in the independent claim 22 and render it allowable. The prior arts in the record fail to teach or make obvious to an apparatus comprising speculatively allocating the resource according to which of the users received the most grants for the resource or made the most requests for the resource, during a predetermined number of previous arbitration cycles within a structure of the claim. These features are claimed in the independent claim 28 and render it allowable. The prior arts in the record fail to teach or make obvious to an apparatus comprising an arbiter coupled to receive requests for use of resources by respective users, the arbiter responsive to speculatively allocate a first resource to a first user of the plurality of users for use during an access interval, absent a request from the first user for the first resource; and wherein the arbiter speculatively allocates more than one resource, including the first resource, to the first user for use during the access interval within a structure of the claim. These features are claimed in the independent claim 34 and render it allowable. The prior arts in the record fail to teach or make obvious to a method comprising the second resource is allocated utilizing a second arbitration cycle, subsequent to the first arbitration cycle, the second arbitration cycle arbitrating those requests received after the start of the first arbitration cycle within a structure of the claim. These features are claimed in the independent claim 39 and render it allowable. The prior arts in the record fail to teach or make obvious to an apparatus comprising receive at least a second group of requests after the start of the first arbitration cycle, and to determine additional allocation of the resources according to the second group of requests during a second arbitration cycle, the

second arbitration cycle being shorter than the first arbitration cycle, the first and second arbitration cycles allocating resources for use during the particular access interval within a structure of the claim. These features are claimed in the independent claim 43 and render it allowable. The prior arts in the record fail to teach or make obvious to a method comprising speculatively allocating the first resource comprising using a scheme allocating the first resource to a user with the fewest requests within a structure of the claim. These features are claimed in the independent claim 51 and render it allowable.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Clemence Han whose telephone number is (571) 272-3158. The examiner can normally be reached on Monday-Friday 9 - 5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on (571) 272-3155. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

C.H.

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